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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/686,953	10/15/2003	Rajashankar Rajakumar	S01.12-0981/STL11273	8808
27365	7590	06/10/2005	EXAMINER	
SEAGATE TECHNOLOGY LLC C/O WESTMAN CHAMPLIN & KELLY, P.A. SUITE 1400 - INTERNATIONAL CENTRE 900 SECOND AVENUE SOUTH MINNEAPOLIS, MN 55402-3319			CAO, ALLEN T	
			ART UNIT	PAPER NUMBER
			2652	

DATE MAILED: 06/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/686,953

Applicant(s)

RAJAKUMAR ET AL.

Examiner

Allen T. Cao

Art Unit

2652

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 10-20 is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 October 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 10/15/03.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

1. Claims 1-9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

a) The phrase "... a recessed cavity surface recessed from the raised bearing surface of the at least one bearing pad and the at least one bearing pad including a leading edge cavity step from the stepped bearing surface" in claim 1, lines 7-9 is vague and indefinite because it is unclear whether the "stepped bearing surface" is belong to either the slider (see claim 1, lines 4-5) or the at least one bearing pad.

b) The plural term "cavities" of the phrase "the plurality of recessed pressure cavities" in claim 3, line 1 and in claim 5, line 1 is vague and indefinite because it lacks antecedent basis. Claim 1 discloses that the bearing pad can has "a recess pressure cavity" (claim 1, line 6). Claim 1 only discloses that the bearing pad can has "a plurality of recessed cavities" (claim 1, lines 10-11), not "plurality of recessed **pressure** cavities" (as set forth in claims 3 and 5), with an "or" function.

c) The phrase "a length to cross dimension ratio of the at least one bearing pad is less than or equal to 2" in claim 9, lines 1-2 is vague and indefinite. It is unclear as to what "a length to cross dimension ratio of the at least one bearing pad is less than or equal to 2".

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description:

Figures 16-18: "line 17—17" and line "18-18" are not in the drawings.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-2, 4-5 and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Hendriks (US. 5,940,249).

Hendriks discloses a slider 12 having a slider body 28 including at least one bearing pad 32 including a raised bearing surface (the top surface of the bearing pad) formed at a substrate surface 28a of the slider body and elevated above a recessed surface 28a (figures 3 and 7-8 of the Applicant's present application show that the substrate surface is the recessed surface) of the slider body and the slider including a stepped bearing surface (the top surface of the step 36) proximate to a leading edge of

Art Unit: 2652

the at least one bearing pad and the at least one bearing pad including a recessed pressure cavity (the cavity between the bearing pad 32 and the step 36) having a recessed cavity surface (the top surface of the recessed cavity) recessed from the raised bearing surface of the at least one bearing pad and the at least one bearing pad including a leading edge cavity step 36 from the stepped bearing surface and a trailing edge cavity step (the trailing edge step of the step 36) to the raised bearing surface, all as set forth in claim 1.

Regarding claim 2, Hendriks discloses that the at least bearing pad is one of a leading edge bearing pad or a trailing edge bearing pad.

Regarding claim 4, Hendriks discloses that the at least one bearing pad includes a leading edge and a trailing edge portion of the slider.

Regarding claim 5, Hendriks discloses that a plurality of recessed pressure cavities spaced between opposed sides of the at least one bearing pad (there are at least 2 recessed pressure cavities spaced between opposed sides, figure 3).

According to claim 9 claimed language (see above 112 rejection), Hendriks inherently discloses that "a length to cross dimension ratio of the at least one bearing pad is less than or equal to 2".

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 2652

6. Claims 3 and 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hendriks in view of White (US. 5,726,831).

Regarding claim 3, Hendriks does not disclose that the recessed pressure cavity(s) is one of rectangular, square or round shape.

White discloses a slider having a bearing pad 22 and a recessed pressure cavity(s) 44; wherein, the cavity(s) 44 is rectangular.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the shape of the recessed cavity(s) of the slider of Hendriks to rectangular as taught by White.

The rationale is as follows: One of ordinary skill in the art would have been motivated to modify the shape of the recessed cavity(s) of the slider of Hendriks to rectangular as taught by White through an obvious routine changing shape as obvious from the one of ordinary skill in the art in order to maintain substantially ambient pressure in the cavity during movement of the recording medium, thus improve the slider characteristics.

Regarding claim 6, Hendriks does not disclose that the trailing edge cavity step includes a cavity step from the recessed surface to the raised bearing surface.

White discloses that the trailing edge cavity step 34 includes a cavity step 28 from the recessed surface (bottom surface of the recess 44) to the raised bearing surface (the top surface of the 34).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the trailing edge cavity step of the slider of Hendriks with a cavity step as set forth, supra as taught by White.

The rationale is as follows: One of ordinary skill in the art would have been motivated to provide the trailing edge cavity step of the slider of Hendriks with a cavity step as set forth, supra as taught by White in order to reduce manufacturing material, thus save manufacturing cost and time.

Regarding claim 7, Hendriks as modified by White disclose a plurality of cavity steps (steps 28 ad 34) from the recessed cavity surface (bottom surface of the recess 44) to the raised bearing surface (the top surface of the step 34).

7. Claim 8 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

The prior art of record neither discloses nor suggests a slider having combination limitations of claim 1 and "the raised bearing surface includes a "U" shaped portion including a trailing edge portion and opposed side portions and including opposed side cavity steps to the raised bearing surface along opposed side portions" as recited in claim 8.

8. Claims 10-20 are allowed.

9. The following is an examiner's statement of reasons for allowance:

a) The prior art of record neither discloses nor suggests a slider having a structure combined of the at least one bearing pad; the raised bearing surface; the

Art Unit: 2652

leading edge step region; the recessed surface; the recessed pressure cavity; and the cavity step as set forth in claim 10. Particularly, the prior art of record neither discloses nor suggests "a recessed pressure cavity having a recessed cavity surface enclosed by a cavity step including a leading edge cavity step from the leading edge step region to the recessed cavity surface and a trailing edge cavity step to the raised bearing surface" as recited in claim 10.

b) The prior art of record neither discloses nor suggests a slider having a structure combined of the at least one bearing pad; the raised bearing surface; the stepped bearing surface; the recessed surface; the recessed pressure cavity; and the recessed pressure cavity having a recessed cavity surface as set forth in claim 20. Particularly, the prior art of record neither discloses nor suggests **"the at least one leading edge bearing pad having a raised bearing surface and a stepped bearing surface** elevated above a recessed surface of the slider and a recessed pressure cavity having a recessed cavity surface recessed from the raised bearing surface and the stepped bearing surface and the leading edge bearing pad including a cavity step from the stepped bearing surface to the recessed cavity surface and the recessed cavity surface to the raised bearing surface (or a plurality of recessed cavities having a cavity step to the raised bearing surface about a perimeter thereof)" as recited in claim 20.


Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Allen T. Cao whose telephone number is (571) 272-7569. The examiner can normally be reached on Mon - Thurs (7:30 - 6:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoa T. Nguyen can be reached on (571) 272-7579. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AC
June 7, 2005



Allen Cao
Primary Examiner